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Leveraging Posterity's Prosperity?

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Abstract: We critically review studies by Blanchard (B) and Rachel and Summers (RS). By the standard fiscal-gap measure, the US government is in dire fiscal shape thanks to constantly enlarging its postwar, take-as-you-go Ponzi scheme. Yet B and RS seemingly rationalize its expansion. Their arguments rest on the safe rate being very low. But almost all households face high safe rates—the rates available from pre-paying their loans. We also question modeling assumptions that help drive key B and RS results and reference recent simulation studies, which reach strongly opposite conclusions to B's.

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Leveraging Posterity's Prosperity?[†]

By JOHANNES BRUMM, LAURENCE KOTLIKOFF, AND FELIX KUBLER*

Our paper examines two thought-provoking papers—Blanchard (2019) (B) and Rachel and Summers (2019) (RS)—that rationalize, without outright endorsing, additional US deficit spending. B suggests that since US growth rates routinely exceed safe interest rates, “public debt may have no fiscal cost.”¹ RS seeks to mitigate what it views as secular stagnation by using government borrowing to keep the safe rate above the so-called zero lower bound. Given limited space, we specialize in criticism. Our paper starts by pointing out that the government’s intertemporal budget constraint (IBC) limits additional deficit finance even were it advantageous at the margin, not least because of America’s initial condition—a massive fiscal gap. Next, we discuss results on efficiency in overlapping generation (OLG) models that circumscribe B’s conjecture. We then point out that for almost all Americans, the safe lending rate is actually their high, not Uncle Sam’s low, borrowing rate. This fact undermines both studies’ conclusions. We also raise concerns about key, but questionable, B and RS modeling assumptions. Finally, we stress that safe rates below growth rates don’t necessarily suggest further expanding America’s seemingly reckless Ponzi game. We

end by cautioning politicians considering more deficit finance to follow the Hippocratic oath: *first, do no harm*.

I. The IBC’s Constraint on Ponzi Schemes and the US Fiscal Gap

B claims that “if the interest rate paid by the government is less than the growth rate, then the intertemporal budget constraint facing the government no longer binds.” This is an overstatement. To see why, consider B’s model of a closed economy, with its zero growth, macro shocks, highly risk-averse agents, and, on average, negative safe rate. If B’s model’s government, persuaded that the bigger the Ponzi scheme the better, borrows all of workers’ savings and transfers them to retirees, next period’s capital stock will be zero. This would spell game over for both B’s policy and the economy.² Moreover, America’s Ponzi scheme is largely being conducted by taxing workers’ labor earnings to make transfers to the elderly. But as Altig et al. (forthcoming) shows, the scope for higher marginal taxation is limited.³ Indeed, adopting an extra Ponzi scheme featuring, say, a 15 percent marginal tax would leave many poor and middle-class households little or no incentive to work. The potential for America to extend its Ponzi scheme is further limited by its large fiscal gap—its present-value shortfall in intertemporal government budget balance under current policy. America’s fiscal gap is \$33.1 trillion,⁴ which is 1.5 times the

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¹Blanchard has written extensively about the cons as well as the pros of deficit spending. In recent testimony, Blanchard calls for reducing US deficit finance unless there is an aggregate-demand shortfall. This suggests that he takes his model as illustrative, rather than as a serious framework for guiding US fiscal policy. See *Reexamining the Economic Costs of Debt: Hearing before the House Committee on the Budget*, 116th Cong. (2019) (statement of Olivier Blanchard, expert witness), <https://budget.house.gov/legislation/hearings/reexamining-economic-costs-debt>.

²See Evans, Kotlikoff, and Phillips (2012) and Evans (2020).

³The median US marginal remaining lifetime net tax rate on labor supply is already quite high, at 42 percent. Among the young and middle-aged poor and the top 1 percent of all ages, it’s above 50 percent. In the case of bottom-quintile 40-year-olds, the seventy-fifth percentile value is 77.1 percent.

⁴The fiscal gap is a partial equilibrium measure. Nonetheless, it is widely used (see European Commission 2016).

current GDP and 2.0 times the US official debt. This measure reflects Congressional Budget Office extended-baseline, long-term projections, extrapolations thereof, and an assumed 6.2 percent real discount rate—the average postwar real return on national wealth.⁵ On a flow basis, the fiscal gap is 6.2 percent of annual GDP—more than two Medicare programs! A positive fiscal gap, let alone a massive one, spells explicit or implicit default. Eliminating Uncle Sam's fiscal gap, while sustaining scheduled outlays, requires permanently raising the path of federal revenues by 34 percent starting immediately.⁶ Clearly, delaying the adjustment lets older generations fully or partially off the hook. This is the grim, zero-sum calculus underlying generational policy.⁷ It's also the appropriate starting point for simulating additional intergenerational redistribution. B's model, however, assumes no initial government. This helps it generate a safe rate that's lower than the growth rate. But the assumption casts doubt on B's results since the marginal benefit from intergenerational transfers decreases in their size.

II. Pareto Efficiency in an OLG Economy

Samuelson (1958) and Diamond (1965) show that deterministic OLG models can, under the right circumstances, run Pareto-efficient Ponzi schemes. Blanchard and Weil (1992) shows that with risk, the safe rate can be less than the growth rate in dynamically efficient economies. Demange (2002) examines the issue in economies with uncertainty and incomplete markets. Demange shows that the differential between the growth rate and the average safe rate does not, by itself, signal the efficacy of a Ponzi scheme. This is particularly true when returns to risky

assets are high—the current case.⁸ Moreover, policies that redistribute across generations may be Pareto improving, not because they provide higher than comparable risk-adjusted market returns but because they improve intergenerational risk sharing (see Shiller 1999 and Bohn 1998).⁹ Krueger and Kubler (2006) considers pay-go Social Security in this regard. It shows that Social Security's intergenerational risk sharing is useful but too small to compensate for capital's crowding out. Note that neither Krueger and Kubler (2006) nor B nor this paper takes a stand on the government's role in intra-generational risk sharing.

III. The Effective Safe Rate and the Safe Labor Endowment Assumption

B and RS equate the safe rate with returns on short-term Treasuries. B points out that real growth rates routinely exceed real safe (1- to 10-year US bond) rates, with current differentials running between 100 and 200 basis points. But close to 90 percent of Americans are in debt, and their safe real rates—the real rates they can earn for sure by prepaying their mortgages, credit card balances, student debt, etc.—equal or exceed the real growth rate.¹⁰ Such debt-ridden Americans would be worse off if forced to participate in a Ponzi scheme paying the growth

⁸The real return on US national wealth has averaged 7.9 percent since 2010.

⁵We derive annual real returns on national wealth by differencing national wealth across adjacent years, subtracting national savings out of labor earnings, and dividing by initial national wealth. Using lower discount rates generates a significantly higher fiscal gap. Using the government's preferred real discount rate of 3 percent yields a fiscal gap of \$165 trillion, with larger requisite policy adjustments.

⁶The requisite tax hikes are 53 percent starting in 2030 and 78 percent starting in 2040.

⁷See Kotlikoff (2002). The fiscal gap's size relative to official debt attests to American politicians' prowess at keeping liabilities off the books.

⁹To see the distinction between risk sharing and a Ponzi scheme, modify B's two-period model to include agents working when old if they don't randomly become disabled. Now workers face second-period asset income and labor earnings risk. The government has no safe asset in which to invest. If it borrows, invests in capital, and taxes bond holders its excess return, "safe" debt is identical to risky capital. But if the net taxes are levied only on the nondisabled, bonds become a valued risk-mitigating asset, and their return can be driven far below zero. This scheme could be, and to some extent is, implemented through progressive taxation. If, observing this gap between growth and safe rates, the government decides to institute an "efficient" Ponzi scheme with a fixed pension benefit financed on a pay-go basis by taxes on workers, net wages when young will be more variable, raising generation-specific risk and potentially producing an outcome in which no generation is better off and at least one is worse off.

¹⁰Bill Fay, "Consumer Debt Statistics and Demographics in America," Debt.org, December 19, 2018, <https://www.debt.org/faqs/americans-in-debt/demographics/>.

rate rather than their higher borrowing rate.¹¹ If the scheme is implemented by borrowing from savers with subsequent debt rollovers, borrowers won't be forced to earn what is, for them, a below-market return. But they will be forced, due to capital's induced crowding out, to pay even higher borrowing rates. And along paths in which the scheme fails—due to crowding out, economic shocks, or both—borrowers, like lenders, will have to pay higher lifetime net taxes. Were B to calibrate his model to the US weighted-average safe borrowing/lending rate or to formally include borrowers, his Ponzi schemes would surely be less likely to achieve Pareto improvements.¹² Another concern is that B's model assumes that workers receive a time-invariant wage endowment equal to half the average wage. As a result, B can run a limited Ponzi scheme with no risk whatsoever.¹³ Evans (2020) and Hasanhodzic (2020) consider versions of B's model with two- and ten-period lived agents, respectively. They report significant expected utility losses among future generations from running B's policies. Since these losses are much smaller when wages are safer, their results demonstrate the important role of the safe labor endowment assumption in B's calibration.

IV. The Closed Economy Assumption

Most US debt is held abroad, yet B models a closed US economy. Moreover, as recent simulations of the Global Gaidar Model (GGM) (see Benzell et al. 2018)—a 17-region global life cycle model—show, the United States is

already effectively a small open economy.¹⁴ This will become increasingly true as its share of world GDP falls from 15 percent now to a GGM-predicted 4 percent by 2100. B mentions the need to revisit his study in an open economy. Doing so would likely portray US Ponzi schemes as beggar-thy-neighbor policies that are good for the United States and bad for the rest of the world because they reduce global investment. Stated differently, a Ponzi scheme run by the United States might be Pareto improving for Americans but not for the world as a whole.¹⁵ As for RS, it models a larger, closed, deterministic¹⁶ economy, namely the Organisation for Economic Co-operation and Development (OECD), justifying this approach by pointing to the OECD's small current account imbalance with the rest of the world. This raises several problems. First, the OECD countries are highly heterogeneous, making it hard to draw policy conclusions for individual countries.¹⁷ Second, a small current account imbalance doesn't mean that the OECD economy behaves, at the margin, like a closed economy.¹⁸ Third, in ignoring non-OECD countries, RS ignores China, India, the Middle East, and sub-Saharan Africa. Collectively, these regions account for one-third of current world output. Moreover, the United Nations projects that their collective population will rise by almost 3.5 billion by 2100. Combined with even slow catch-up productivity growth, this demographic trend will, by GGM's reckoning, leave these RS-excluded regions with two-thirds of 2100 world output. Their growth will also

¹¹Take Joe, who is borrowing at, say, 8 percent—that is, Joe is willing to give up \$1.00 this year for \$1.08 more next year, and vice versa. But the Ponzi scheme forces him to swap \$1.00 this year for, say, just \$1.03 next year.

¹²Currently, 1- and 10-year Treasuries are yielding 1.52 percent and 1.91 percent, respectively. Yes, nominal GDP growth is running at 3.82 percent. But prevailing rates on 30-year mortgages, credit cards, and undergraduate loans are 3.87 percent, 19.2 percent, and 4.53 percent, respectively. Even when adjusted for default risk, the (weighted-average) rate at which Americans are borrowing is, not least due to intermediation costs, probably much higher than the nominal growth rate.

¹³An earnings endowment lasting forever, let alone one equal to half of average wages, is hard to swallow given changes in technology and international competition. This is not to mention the long history of economies collapsing because of wars, revolutions, plagues, and mismanagement.

¹⁴The GGM is calibrated to UN demographic and International Monetary Fund fiscal data and features region-specific productivity catch-up.

¹⁵Moreover, if other countries follow the lead of the United States, the policy might boomerang as less capital flows into the United States than would otherwise have.

¹⁶That is, RS argues for deficit finance based on low prevailing safe rates using a model in which safe rates lower than risky rates don't arise. Their implied assumption of a constant risk premium is belied by the data.

¹⁷For instance, even if increased savings within the OECD were a major driving force of the alleged secular stagnation, the United States seems to be an exception that might call for different policy conclusions. Over the past seven decades, starting with the fifties, the US net national saving rate has averaged 13.6, 14.7, 11.1, 7.2, 5.6, 3.0, and 3.0 percent.

¹⁸The Rybczynski theorem tells us that under free trade, nothing necessarily pins down the location of capital and, thus, a country's or region's current account.

produce an enormous demand for capital. This is why the GGM shows the world interest rate rising by 200 basis points through mid-century and remaining high thereafter. Hence, RS need not worry about secular stagnation. There is likely to be ample global demand for capital from the regions that paper fails to model.

V. Warning to Politicians

The level of safe interest rates reflects, among many other things, people's desire for insurance and the precise structure of government-engineered risk mitigation and risk generation. Return to B's model and conjure a government that drives the safe rate far below zero by randomly redistributing among the elderly, leaving a large fraction impoverished. Yet this malevolent government slavishly services its bonds. Consequently, government bonds become the only way to limit risk—both government-redistribution risk and investment risk. In this policy setting, the addition of even a risky Ponzi scheme, effected through the sale of bonds, could be welfare improving. But, clearly, the way for the government to mitigate risk and raise all cohorts' welfare is to stop producing risk. More generally, we need to understand precisely why safe rates are low and whether we can expect them to stay low before suggesting further leveraging the prosperity of America's posterity. In closing, a warning to politicians. *Do no harm* should be your watchwords, particularly when it comes to administering higher doses of an economic cure—all that appears to be gravely imperiling today's and tomorrow's children.

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